Amendments to the Claims:

Claim 1. (Previously amended): A purified polypeptide, comprising an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17; and

i) sequence SEQ ID No. 19.

Claim 2. (Previously amended): A polypeptide according to Claim 1, comprising an amino acid sequence selected from the group consisting of SEQ ID No. 6, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 and SEQ ID No. 19.

Claim 3. (Previously amended): A polypeptide according to Claim 1 comprising ~~a~~ an amino acid sequence selected from the group consisting of SEQ ID No. 2 from residue 110 to residue 310, SEQ ID No. 6 from residue 110 to residue 310, and SEQ ID No. 8 from residue 60 to residue 260.

Claim 4. (Previously amended): A polypeptide according to Claim 1, which is produced from an alternative splicing of messenger RNA of a gene coding for said polypeptide.

Claim 5. (Previously amended): A polypeptide according to Claim 1 that is a recombinant polypeptide produced in the form of a fusion protein.

Claim 6. (Previously amended): An isolated nucleic acid sequence coding for a polypeptide according to Claim 1.

Claim 7. (Previously amended): An isolated nucleic acid sequence according to Claim 6, said nucleic acid having a sequence selected from the group consisting of:

a) [the] sequence SEQ ID No. 1;

b) [the] sequence SEQ ID No. 3;

c) [the] sequence SEQ ID No. 5;

d) [the] sequence SEQ ID No. 7;

e) [the] sequence SEQ ID No. 9;

f) [the] sequence SEQ ID No. 11;

g) [the] sequence SEQ ID No. 12;

h) [the] sequence SEQ ID No. 14;

i) [the] sequence SEQ ID No. 16;

j) [the] sequence SEQ ID No. 18;

k) [the] nucleic acid sequences capable of hybridizing specifically with [the] sequence SEQ ID No. 1, SEQ ID No. 3, SEQ ID No. 5, SEQ ID No. 7, SEQ ID No. 9, SEQ ID No. 11, SEQ ID No. 12, SEQ ID No. 14, SEQ ID No. 16 or SEQ ID No. 18 or with [the] sequences complementary to them, or of hybridizing specifically with their proximal sequences; and

l) sequences derived from the sequences a), b), c), d), e), f), g), h), i), j) or k) as a result of the degeneracy of the genetic code, mutation, deletion, insertion, and alternative splicing or an allelic variability.

Claim 8. (Previously amended): A nucleotide sequence according to Claim 6, selected from the group consisting of SEQ ID No. 5, SEQ ID No. 12, SEQ ID No. 14, SEQ ID No. 16 and SEQ ID No. 18 and coding, respectively, for the polypeptide of sequences SEQ ID No. 6, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 and SEQ ID No. 19.

Claim 9. (Previously amended): A cloning and/or expression vector containing a nucleic acid sequence according to Claim 6 [to 8].

Claim 10. (Previously amended): A vector, according to Claim 9, which is plasmid pSE1.

Claim 11. A host cell transfected by a vector according to Claim 9.

Claim 12. (Previously amended): A transfected host cell, according to Claim 11, which is *E. coli* MC 1061.

Claim 13. A nucleotide probe or nucleotide primer which hybridizes specifically with the nucleic acid of Claim 6 or a nucleic acid having sequences complementary to them or messenger RNAs corresponding to them or genes corresponding to them.

Claim 14. (Previously amended): A probe or primer according to Claim 13 that contains at least 16 nucleotides.

Claim 15. (Previously amended): A probe or primer according to Claim 13 that comprises the whole of the sequence of the gene coding for a polypeptide, wherein said polypeptide comprises an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17;

i) sequence SEQ ID No. 19; and

j) any biologically active sequence derived from SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19.

Claim 16. (Previously amended): A nucleotide probe or primer selected from the group consisting of the following oligonucleotides or sequences complementary to them:

SEQ ID No. 20: GCG AGC TGC CCT CGG AG

SEQ ID No. 21: GGT TCT GCA GGT GAC TCA G

SEQ ID No. 22: GCC ATG CCT GTC TAC AAG

SEQ ID No. 23: ACC AGC TGG TTG ACG GAG

SEQ ID No. 24: GTC AAC CAG CTG GTG GGC CAG

SEQ ID No. 25: GTG GAT CTC GGC CTC C

SEQ ID No. 26: AGG CCG GCG TGG GGA AG

SEQ ID No. 27: CTT GGC GAT CTG GCA GTA G

SEQ ID No. 28: GCG GCC ACG ACC GTG AC

SEQ ID No. 29: GGC AGC TTG GGT CTC TGG

SEQ ID No. 30: CTG TAC GTC GGT GAC CCC

SEQ ID No. 31: TCA GTG GAT CTC GGC CTC

SEQ ID No. 32: AGG GGA CGC AGC GAA ACC

SEQ ID No. 33: CCA TCA GCT CCA GGC TCT C

SEQ ID No. 34: CCA GGA CAG GCG CAG ATG

SEQ ID No. 35: GAT GAG GTG GCT GGC TGG A

SEQ ID No. 36: TGG TCA GGT TCT GCA GGT G

SEQ ID No. 37: CAC CTA CTC CAG GGA TGC

SEQ ID No. 38: AGG AAA ATA GAA GCG TCA GTC

SEQ ID No. 39: CAG GCC CAC TTG CCT GCC

and SEQ ID No. 40: CTG TCC CCA AGC TGA TGA G

Claim 17. (Previously amended): The use of a sequence according to Claim 6 for the manufacture of oligonucleotide primers for sequencing reactions or specific amplification reactions according to the PCR technique or any variant of the latter.

Claim 18. (Previously amended): A nucleotide primer pair comprising primers selected from the group consisting of the following sequences:

a) sense primer: GCG AGC TGC CCT CGG AG (SEQ ID No. 20)
antisense primer: GGT TCT GCA GGT GAC TCA G (SEQ ID No. 21)

b) sense primer: GCC ATG CCT GTC TAC AAG (SEQ ID No. 22)
antisense primer: ACC AGC TGG TTG ACG GAG (SEQ ID No. 23)

c) sense primer: GTC AAC CAG CTG GTG GGC CAG (SEQ ID No. 24)
antisense primer: GTG GAT CTC GGC CTC C (SEQ ID No. 25)

d) sense primer: AGG CCG GCG TGG GGA AG (SEQ ID No. 26)
antisense primer: CTT GGC GAT CTG GCA GTA G (SEQ ID No. 27)

e) sense primer: GCG GCC ACG ACC GTG A (SEQ ID No. 28)
antisense primer: GGC AGC TTG GGT CTC TGG (SEQ ID No. 29)

f) sense primer: CTG TAC GTC GGT GAC CCC (SEQ ID No. 30)
antisense primer: TCA GTG GAT CTC GGC CTC (SEQ ID No. 31)

g) sense primer: AGG GGA CGC AGC GAA ACC (SEQ ID No. 32)
antisense primer: GGC AGC TTG GGT CTC TGG (SEQ ID No. 29)

h) sense primer: CCCCCCCCCCCCCCN (where N equals G, A or T)
antisense primer: CCA TCA GCT CCA GGC TCT C (SEQ ID No. 33)

i) sense primer: CCCCCCCCCCCCCCN (where N equals G, A or T)
antisense primer: CCA GGA CAG GCG CAG ATG (SEQ ID No. 34)

j) sense primer: CCCCCCCCCCCCCCN (where N equals G, A or T)
antisense primer: CTT GGC GAT CTG GCA GTA G (SEQ ID No. 27)

k) sense primer: CAC CTA CTC CAG GGA TGC (SEQ ID No. 37)
antisense primer: AGG AAA ATA GAA GCG TCA GTC (SEQ ID No. 38) and

l) sense primer: CAG GCC CAC TTG CCT GCC (SEQ ID No. 39)
antisense primer: CTG TCC CCA AGC TGA TGA G (SEQ ID No. 40)

Claim 19. (Previously amended): The use of a sequence according to Claim 6 in gene therapy.

Claim 20. (Previously amended): The use of a sequence according to Claim 6 for the production of diagnostic nucleotide probes or primers, or of antisense sequences which are usable in gene therapy.

Claim 21. (Previously amended): The use of nucleotide primers according to Claim 6 for sequencing.

Claim 22. (Previously amended): The use of a probe or primer according to Claim 13 as an *in vitro* diagnostic tool for the detection, by hybridization experiments, of nucleic acid sequences coding for a polypeptide, wherein said polypeptide comprises an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17;

i) sequence SEQ ID No. 19; and

j) any biologically active sequence derived from SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19 in biological samples, or for the demonstration of aberrant syntheses or of genetic abnormalities.

Claim 23. (Previously amended): A method of *in vitro* diagnosis for the detection of aberrant syntheses or of genetic abnormalities in the nucleic acid sequences coding for a polypeptide, wherein said polypeptide comprises an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17;

i) sequence SEQ ID No. 19; and

j) any biologically active sequence derived from SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19

comprising the steps of:

- bringing of a nucleotide probe according to Claim 13 into contact with a biological sample under conditions permitting the formation of a hybridization complex between

the probe and the nucleotide sequence, where appropriate after a prior step of amplification of the nucleotide sequence;

- the detection of the hybridization complex formed; and
- where appropriate, sequencing of the hybridization complex' nucleotide sequence with the probe of the invention.

Claim 24. (Previously amended): The use of a nucleic acid sequence according to Claim 6 for the production of a recombinant polypeptide wherein said polypeptide comprises an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17;

i) sequence SEQ ID No. 19; and

j) any biologically active sequence derived from SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19.

Claim 25. (Previously amended): A method of production of a recombinant SR-p70 protein, characterized in that transfected cells according to Claim 11 are cultured under conditions permitting the expression of a recombinant polypeptide of sequence SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19 or any biologically active fragment or derivative, and in that the recombinant polypeptide is recovered.

Claim 26. (Previously amended): Mono- or polyclonal antibodies or their fragments, chimeric antibodies or immunoconjugates, characterized in that they are capable of specifically recognizing a polypeptide according to Claim 1.

Claim 27. (Previously amended): Use of the antibodies according to Claim 26 for the purification or detection of a polypeptide , wherein said polypeptide comprises an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17;

i) sequence SEQ ID No. 19; and

j) any biologically active sequence derived from SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19 in a biological sample.

Claim 28. (Previously amended): A method of *in vitro* diagnosis of pathologies correlated with an expression or an abnormal accumulation of SR-p70 proteins, in particular the phenomena of carcinogenesis, from a biological sample, comprising the steps of contacting at least one antibody according to Claim 25 with the said biological sample under conditions permitting the formation of specific immunological complexes between an SR-p70 protein and the said antibody or antibodies, and detecting the presence of specific immunological complexes formed.

Claim 29. (Previously amended): A kit for the *in vitro* diagnosis of an expression or an abnormal accumulation of SR-p70 proteins in a biological sample and/or for measuring the level of expression of these proteins in the said sample, comprising:

- at least one antibody according to Claim 25, optionally bound to a support,
- means of visualization of the formation of specific antigen-antibody complexes between an SR-p70 protein and the said antibody, and/or means of quantification of these complexes.

Claim 30. (Previously amended): A method for the early diagnosis of tumour formation, wherein autoantibodies directed against an SR-p70 protein are demonstrated in a serum sample drawn from an individual, according to the steps that comprise bringing a serum sample drawn from an individual into contact with a polypeptide of the invention, optionally bound to a support, under conditions permitting the formation of specific immunological complexes between the said polypeptide and autoantibodies present in the serum sample, and in that the specific immunological complexes formed are detected.

Claim 31. (Previously amended): A method of determination of an allelic variability, a mutation, a deletion, an insertion, a loss of heterozygosity or a genetic abnormality of the SR-p70 gene, characterized in that it utilizes at least one nucleotide sequence according to Claim 6.

Claim 32. (Previously amended): A method of determination of an allelic variability of the SR-p70 gene at position -30 and -20 relative to the initiation ATG of exon 2 which may be involved in pathologies comprising:

- a step during which exon 2 of the SR-p70 gene carrying the target sequence is amplified by PCR using a pair of oligonuclotide primers according to Claim 6;
- a step during which the amplified products are treated with a restriction enzyme whose cleavage site corresponds to the allele sought and;
- a step during which at least one of the products of the enzyme reaction is detected or assayed.

Claim 33-34 (Cancelled)

Claim 35. (Previously amended): A pharmaceutical composition containing an inhibitor or an activator of SR-p70 activity.

Claim 36. (Previously amended): A pharmaceutical composition containing a polypeptide derived from a polypeptide according to Claim 1 which is an inhibitor or an activator of SR-p70.

Claim 37. ((Previously added): The use of a probe or primer according to Claim 16 as an *in vitro* diagnostic tool for the detection, by hybridization experiments, of nucleic acid sequences coding for

a polypeptide, wherein said polypeptide comprises an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17;

i) sequence SEQ ID No. 19; and

j) any biologically active sequence derived from SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19 in biological samples, or for the demonstration of aberrant syntheses or of genetic abnormalities.

Claim 38. (Previously added): A method of *in vitro* diagnosis for the detection of aberrant syntheses or of genetic abnormalities in the nucleic acid sequences coding for a polypeptide, said polypetide comprising an amino acid sequence selected from the group consisting of:

a) sequence SEQ ID No. 2;

b) sequence SEQ ID No. 4;

c) sequence SEQ ID No. 6;

d) sequence SEQ ID No. 8;

e) sequence SEQ ID No. 10;

f) sequence SEQ ID No. 13;

g) sequence SEQ ID No. 15;

h) sequence SEQ ID No. 17;

i) sequence SEQ ID No. 19; and

j) any biologically active sequence derived from SEQ ID No. 2, SEQ ID No. 4, SEQ ID No. 6, SEQ ID No. 8, SEQ ID No. 10, SEQ ID No. 13, SEQ ID No. 15, SEQ ID No. 17 or SEQ ID No. 19

comprising the steps of:

- bringing of a nucleotide probe according to Claim 16 into contact with a biological sample under conditions permitting the formation of a hybridization complex between the probe and the nucleotide sequence, where appropriate, after a prior step of amplification of the nucleotide sequence;
- the detection of the hybridization complex formed; and
- where appropriate, sequencing of the hybridization complex' nucleotide sequence with the probe of the invention.

Claim 39. (New) A polypeptide according to Claim 1 having the amino acid sequence of SEQ ID No. 6.